

Listing of Claims:

1. (original) A purified gluten oligopeptide having the formula:
 $E_1-X_1-E_2-X_2-E_3\dots X_n-E_y$,
wherein E_1 , E_2 and E_3 are independently selected epitopes, X_1 and X_2 are independently selected from the group consisting of a peptide bond and at least one amino acid, $n=0-5$, and $y=0-5$.
2. (original) The oligopeptide of claim 1, wherein said epitopes are independently selected from the group consisting of PFPQPQLPY, PQPQLPYPQ, PQLPYPQPQ, PYPQPQLPY, PQPELPYPQ, PFPQPELPY, PQQSFPQQQ, PFPQQPQQPFP, PYPQPELPY, and conservatively modified variants thereof.
3. (original) The oligopeptide of claim 1, wherein $n=0$ and $y=0$.
4. (original) The oligopeptide of claim 1, further comprising a flanking sequence.
5. (original) The oligopeptide of claim 1, further comprising a covalent linkage to all or a portion of a mammalian tTGase.
6. (original) The oligopeptide of claim 5, wherein said mammalian tTGase is selected from the group consisting of a human, bovine, equine, and porcine tTGase.
7. (original) The oligopeptide of claim 6, wherein said tTGase is covalently linked to said oligopeptide at a site of deamidation.
8. (original) A method for diagnosing Celiac Sprue in an individual, said method comprising detecting the presence of an antibody that specifically binds an oligopeptide of claim 1 in a tissue, bodily fluid, or stool of said individual.
9. (original) A method for diagnosing Celiac Sprue in an individual, said method comprising determining whether an oligopeptide of claim 1 stimulates agglutination of anti-gliadin antibodies, anti-tTGase antibodies, or combinations thereof from said individual, and correlating an ability to stimulate agglutination with a positive diagnosis of Celiac Sprue.

10. (original) A method for diagnosing Celiac Sprue in an individual, said method comprising detecting the presence of an oligopeptide of claim 1 in a tissue, bodily fluid, or stool of said individual.

11. (original) The method of Claim 10, wherein said detecting is accomplished using an antibody that recognizes said oligopeptide or by a cell line that proliferates in the presence of said oligopeptide.

12. (original) A purified oligopeptide selected from the group consisting of (SEQ ID NO:12) LQLQPFPQPQLPYPQPQLPYPQPQLPYPQPQPF, a deamidated counterpart thereof, and a conservatively modified variant thereof.

13. (original) The oligopeptide of claim 12, wherein at least one of the underlined Q residues in (SEQ ID NO:12) LQLQPFPQPQLPYPQPQLPYPQPQLPYPQPQPF is deamidated.

14. (original) The oligopeptide of claim 12, further comprising a covalent linkage to all or a portion of a mammalian tTGase.

15. (original) The oligopeptide of claim 14, wherein said mammalian tTGase is selected from the group consisting of a human, bovine, equine, and porcine tTGase.

16. (original) The oligopeptide of claim 15, wherein said tTGase is covalently linked to said oligopeptide at a site of deamidation.

17. (original) A method for diagnosing Celiac Sprue in an individual, said method comprising detecting the presence of an antibody against an oligopeptide of claim 12 in a tissue, bodily fluid, or stool of said individual.

18. (original) A method for diagnosing Celiac Sprue in an individual, said method comprising determining whether an oligopeptide of claim 12 stimulates agglutination of anti-gliadin antibodies, anti-tTGase antibodies, or combinations thereof from said individual, and correlating an ability to stimulate agglutination with a positive diagnosis of Celiac Sprue.

19. (original) A method for diagnosing Celiac Sprue in an individual, said method comprising detecting the presence of an oligopeptide of claim 12 in a tissue, bodily fluid, or stool of said individual.

20. (original) The method of Claim 19, wherein said detecting is accomplished using an antibody that recognizes said oligopeptide or by a cell line that proliferates in the presence of said oligopeptide.

21. (original) The method of claim 8 or claim 19, wherein said tissue is a mucosal tissue selected from the group consisting of oral, nasal, lung, and intestinal mucosal tissue.

22. (original) The method of claim 8 or claim 20, wherein said bodily fluid is selected from the group consisting of blood, sputum, urine, phlegm, lymph, and tears.

23. (original) An antibody-producing cell line that produces an antibody that binds specifically to an oligopeptide of claim 1 or claim 12.

24. (original) An antibody produced from the cell line of claim 23.

25. (original) The method of claim 8 or claim 17, wherein said individual has not consumed gluten for an extended period of time.

26. (original) The method of claim 25, wherein said extended period of time is selected from the group consisting of one day, one week, one month, and one year prior to the performance of the diagnostic method.

27. (original) The method of claim 8 or claim 17, wherein said individual has not had an endoscopy.

28. (original) The method of claim 8 or claim 17, wherein said individual is the subject of a therapy intended to treat Celiac Sprue or is in a clinical trial conducted to evaluate such a therapy.

29. (previously presented) The antibody of Claim 24, wherein the antibody is generated against and binds specifically to an oligopeptide selected from the group consisting of (SEQ ID NO:12) LQLQPFPQPQLPYPQPQLPYPQPQLPYPQPQPF, a deamidated counterpart oligopeptide of SEQ ID NO:12, a conjugate of tissue transglutaminase and SEQ ID NO:12, and a conjugate of tissue transglutaminase and said counterpart oligonucleotide.